Self Sufficent Housing

" Well we know where were going, but we don't know where we've been." So call the lyrics of a certain 80's pop song. And where we are going, is of course hyper-fast into the future. But with one minor problem: little fuel left in the tank. This realisation is slowly beginning to dawn us.

Meantime visions of the future have never looked so good -now that we can see them with the aid of a few hundred Gigabytes and high-resolution screens. But what will it be like to live there? What kind of houses will we be taking our virtual mortgages out for? Certainly they will have to be sustainable, low energy and eco friendly. We will be plugging our composting toilets and wind turbines into the ultimate machines for being 'green in'. Self-Sufficient Housing is an excellent little pocket book that gives us a fast forward glimpse into what may lie ahead in this eco-topia. A dense compendium of ideas, it began as an international architectural competition to research different approaches to the theme of sustainable dwellings.

While many of the projects are predictably an exposition in sophisticated computer modelling, photoshop manipulations and an overabundance of the colour green, there is a wide investigation of ideas, issues and structures. They all have evocative names such as, 'Solar Down & Out House', 'Trizone', 'Sand and Salt', 'Landfill Settlers', 'Net-cell' and 'Scrap House' and are organised into equally interesting eco categories: 'Bio and Bugs', 'Wrapped' and 'Blow and Farm'.

E-mail and web contact details are given for each architect, so that you can if you wish pursue a conversation and maybe a commission direct with the designers. Here the internet is used as a useful natural extension of this compact book for research, exchange of ideas and documentation.

While some projects do look like the uncertain progeny of unhappy couplings between submarines and space ships, others -that are more land based- rise as vertical communities of plug-in eco shacks, precarious cliff dwellings, organic blobs and rooftop lookouts. Cows and chickens populate the eco imagery, and wander happily between the gadgetry through virtual space to remind us of our rustic roots. Even the most basic proposal comes fully equipped with grey water collection, photovoltaic panels, green roofs and solar chimneys as standard.

As architecture faces up to more sobering responsibilities, this dynamic excursion into future visions for Self-Sufficient Housing helps direct us on our way as a hitch-hikers guide to finding our self sufficient future.

Paul Clarke

Self-Sufficient Housing: Iaac. 1st Advanced Architecture Contest.
Actar. www.actar.es
Pb 384pp
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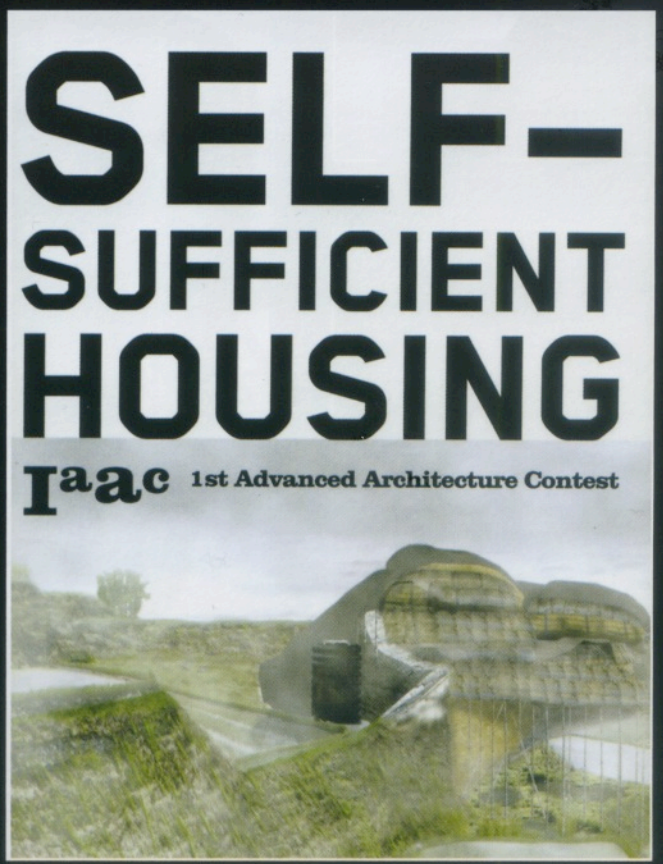

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02

2.4 **54510** **Re-thinking Lascaux** CH

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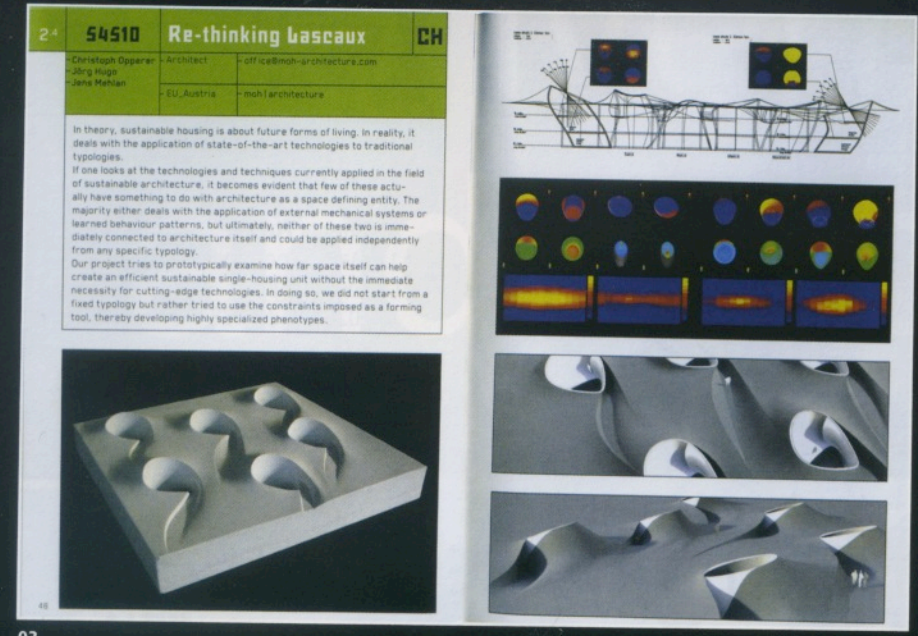
In theory, sustainable housing is about future forms of living. In reality, it deals with the application of state-of-the-art technologies to traditional typologies.
If one looks at the technologies and techniques currently applied in the field of sustainable architecture, it becomes evident that few of these actually have something to do with architecture as a space defining entity. The majority either deals with the application of external mechanical systems or learned behaviour patterns, but ultimately, neither of these two is immediately connected to architecture itself and could be applied independently from any specific typology.
Our project tries to prototypically examine how far space itself can help create an efficient sustainable single-housing unit without the immediate necessity for cutting-edge technologies. In doing so, we did not start from a fixed typology but rather tried to use the constraints imposed as a forming tool, thereby developing highly specialized phenotypes.



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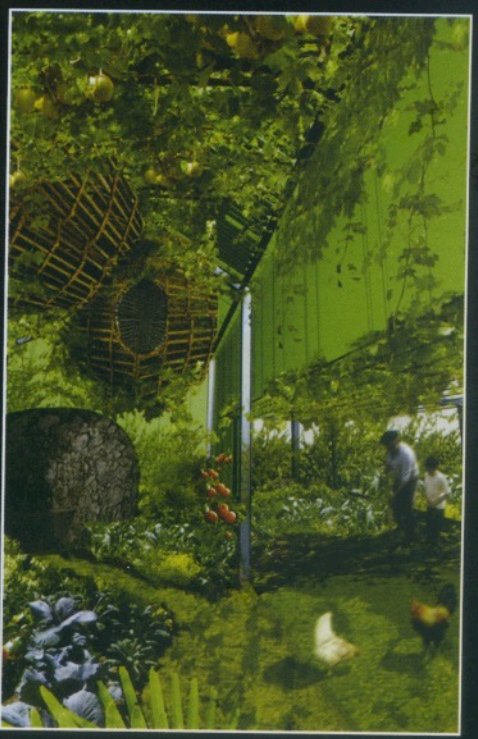

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3.5 **2981f** **Fighting Abandonment** SH

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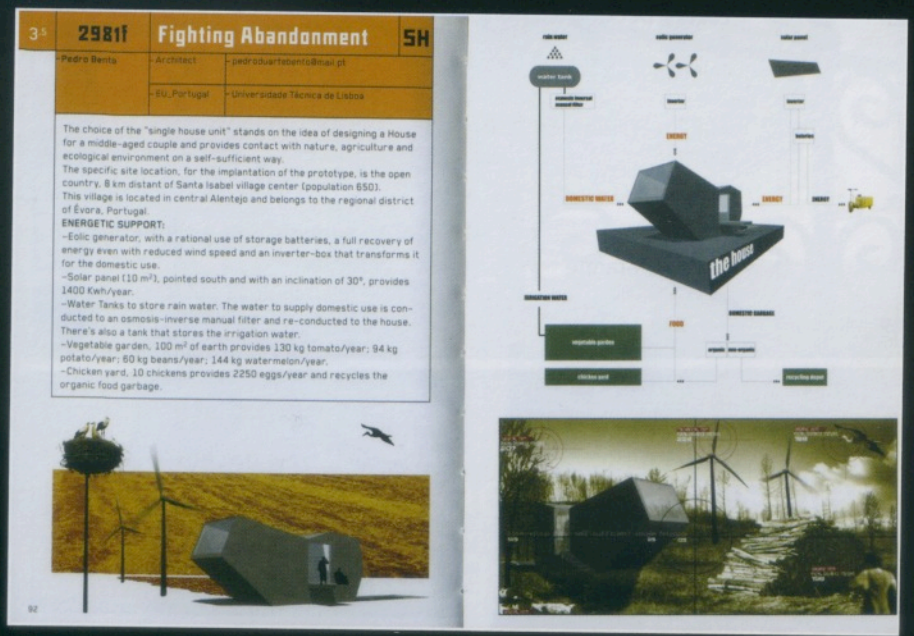
The choice of the "single house unit" stands on the idea of designing a House for a middle-aged couple and provides contact with nature, agriculture and ecological environment on a self-sufficient way.
The specific site location, for the implantation of the prototype, is the open country, 8 km distant of Santa Isabel village center (population 650). This village is located in central Alentejo and belongs to the regional district of Évora, Portugal.
ENERGETIC SUPPORT:
-Eolic generator, with a rational use of storage batteries, a full recovery of energy even with reduced wind speed and an inverter-box that transforms it for the domestic use.
-Solar panel (10 m²), pointed south and with an inclination of 30°, provides 1400 Kwh/year.
-Water Tanks to store rain water. The water to supply domestic use is conducted to an osmosis-inverse manual filter and re-conducted to the house. There's also a tank that stores the irrigation water.
-Vegetable garden, 100 m² of earth provides 130 kg tomato/year; 94 kg potato/year; 60 kg beans/year; 144 kg watermelon/year.
-Chicken yard, 10 chickens provides 2250 eggs/year and recycles the organic food garbage.



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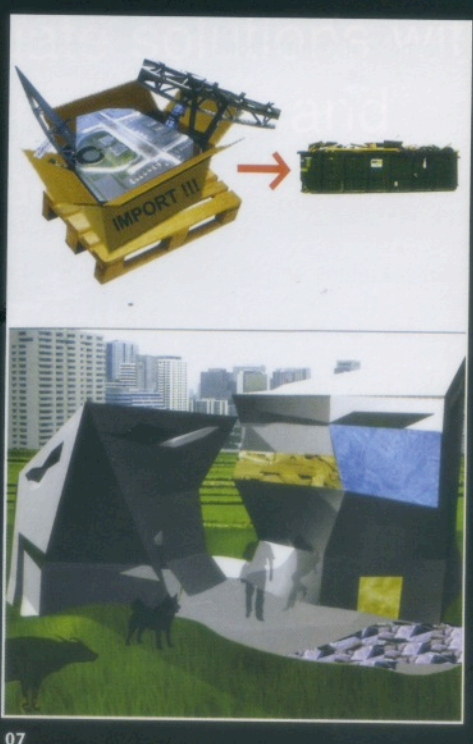

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4.10 **a639c** **Ecosystem (RE)Generator** CH

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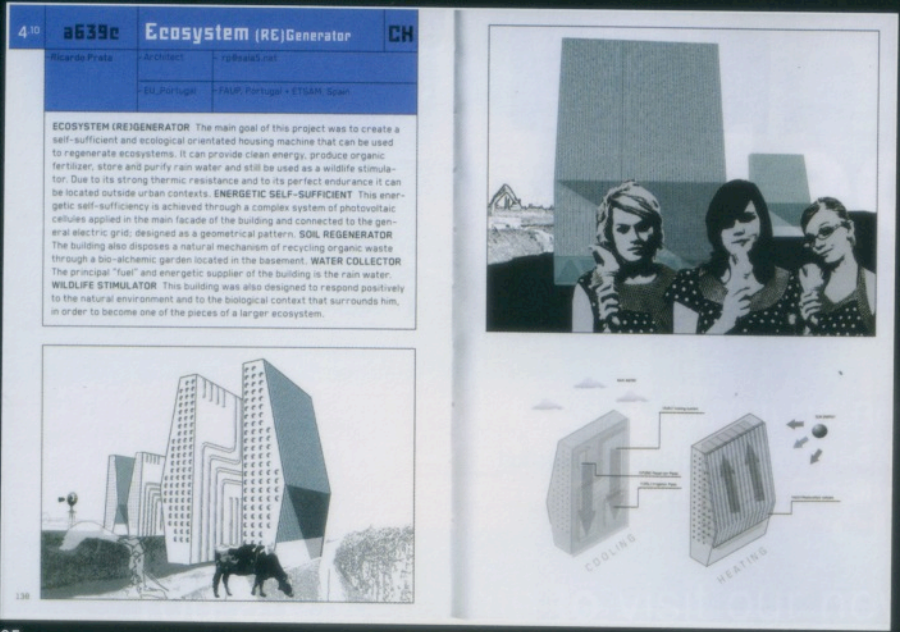
ECOSYSTEM (RE)GENERATOR The main goal of this project was to create a self-sufficient and ecological orientated housing machine that can be used to regenerate ecosystems. It can provide clean energy, produce organic fertilizer, store and purify rain water and still be used as a wildlife stimulator. Due to its strong thermic resistance and to its perfect endurance it can be located outside urban contexts. **ENERGETIC SELF-SUFFICIENT** This energetic self-sufficiency is achieved through a complex system of photovoltaic cellules applied in the main facade of the building and connected to the general electric grid; designed as a geometrical pattern. **SOIL REGENERATOR** The building also disposes a natural mechanism of recycling organic waste through a bio-alchemic garden located in the basement. **WATER COLLECTOR** The principal "fuel" and energetic supplier of the building is the rain water. **WILDLIFE STIMULATOR** This building was also designed to respond positively to the natural environment and to the biological context that surrounds him, in order to become one of the pieces of a larger ecosystem.



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